



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,462	10/27/2003	Richard H. Breinlinger	SAA-99	2502

7590  
Larry I. Golden  
Square D Company  
1415 South Roselle Road  
Palatine, IL 60067

EXAMINER
----------

PATEL, AJIT

ART UNIT	PAPER NUMBER
----------	--------------

2617

MAIL DATE	DELIVERY MODE
-----------	---------------

01/06/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-25,27-46,48-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al (U.S. pat. # 5,619,494) in view of Gillies et al (U.S. Pub. # 2005/0180356).

Regarding claims 1-25,27-46,48-55, Nishikawa et al disclose an access unit comprising having a redundant topology for communication between one or more devices (see fig. 1) and a central switch (concentrator in fig. 1) comprising: a central switch having a plurality of ports (see port in fig. 1); a first end node (see access unit in fig. 1) having a first port and a second port (see connector in fig. 1), wherein the first port, second port, and the plurality of ports comprise Ethernet ports (lines 18-24, col. 2; lines 52-64, col. 2); a first active cable connected to the first port in the end node and a first port of the plurality of ports in the switch; a second active cable connected to the second port in the end node and a second port of the plurality of ports in the switch (the cable connected between port and the connector of fig. 1), a second end node having a first port and a

Art Unit: 2617

second port; a third active cable connected to the first port in the second end node and a third port in the hub; a fourth active cable connected to the second port in the second end node and a fourth port in the switch, ( it is obvious to connect another access unit to the concentrator since the concentrator has many ports to connect more access units in fig. 1); a plurality of additional end nodes, each end node having a first port and a second port, a plurality of additional active cables, each active cable connecting one of the first port and the second port of one of the plurality of additional end nodes to a corresponding port of the plurality of ports in, the switch (it is obvious to connect another access unit to the concentrator since the concentrator has many ports to connect more access units in fig. 1); wherein the first active cable is provided a first route from the first end node to the switch (see the cable between the concentrator and the access unit in fig. 1), and the second active cable is provided a second route from the first end node to the switch, and wherein the first route is different than the second route (see the cable between the concentrator and the access unit in fig. 1); wherein each active cable connecting a specific one of the plurality of end nodes to the switch is provided with a different route from the specific one of the plurality of end nodes to the switch (fig. 1); wherein the switch is connected to an Internet or intranet (the concentrator which is connected to the LAN which uses the packet as transmission protocol); wherein the first end node and the plurality of end nodes are configured in a star configuration with each end node having two cable connections to the hub (fig. 1); wherein in one of the first end node and the plurality of end nodes is a programmable logic controller (fig.2); wherein in one of the first end node and the plurality of end nodes is an IO device or a

Art Unit: 2617

bridge or a gateway or a relay (see relay in fig. 1) or a motor starter. Nishikawa et al disclose all the claimed subject matter as described in previous paragraph except that the first active cable and the second active cable transmit a same first packet of data to the first end node and the first end node is configured to perform an integrity check to a packet of data received on the first active cable and is configured to perform an integrity check on a packet of data received on the second active cable; wherein the integrity check to a packet of data received on the first active cable is a CRC check. Gillies et al disclose a communication system in which same packet (duplicate) is transmitted on two paths (see para. 0070). Therefore, it would have been obvious to one skilled in the art to use the teaching of Gillies et al in the system of Nishikawa et al in order to provide a reliable system that enables communication to continue even in the event of a malfunction in a cable. It is noted that the using the CRC is well known in the art.

3. Applicant's arguments filed 10/15/08 have been fully considered but they are not persuasive. The applicant argued with respect to all independent claims that Nishikawa or Gilles fails to disclose the use of Ethernet ports. However, Nishikawa et al disclose (lines 18-24, col. 2; lines 52-64, col. 2) that the network is LAN which comprises central switch or central hub or central concentrator (see S fig. 1) having a plurality of Ethernet ports to connect the work stations. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so

Art Unit: 2617

found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, It would have been obvious to one skilled in the art to use duplicate packets as taught by Gillies in the system of Nishikawa because duplicate packets may result from a node receiving the same packet through multiple paths and discard the duplicate packet which arrive late and hence increase the reliability of the system (see para. 0070).

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AJIT PATEL whose telephone number is (571)272-3140. The examiner can normally be reached on MON-FRI.

Art Unit: 2617

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PAUL HARPER can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AJIT PATEL/  
Primary Examiner, Art Unit 2617